

APPENDIX B

NORTHERN CHEYENNE TRIBE MITIGATION

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BLM will use the following mitigation actions to protect Northern Cheyenne Tribal trust resources, or to protect other area resource values of importance to the Tribe. These mitigating measures will be imposed on operators at the APD approval stage of development as needed on a case-by-case basis. The mitigation measures will only be applied on those lands or minerals where BLM has authority.

Air - Operators will be required to provide the information necessary for BLM to conduct an analysis of air quality impacts for all relevant parameters when submitting their exploration APDs or field development project plans. BLM will use the information to determine the individual and cumulative impact on the Reservation's air quality; disclose the analysis results in the appropriate NEPA document; and consult with the Tribe when the analysis shows impacts from a specific drilling or development proposal.

Approval of exploration APDs and field development plans will include an analysis of the individual and cumulative impacts to air quality and be conditioned to prevent violations of applicable air quality laws, regulations, and standards. Mitigating measures may include surfacing roads and well locations; applying dust suppressants; requiring operators to develop and enforce speed limits on project roads; minimizing construction of roads; requiring use of natural gas-fired and electric compressors; and optimizing the number of wells connected to one compressor.

Operators in the vicinity of the Reservation may be required to restrict the timing or location of CBM development if monitoring or modeling by the air quality regulatory authority finds their CBM development is causing or threatening to cause non-compliance with applicable local, state, tribal, and federal air quality laws, regulations, standards, and implementation plans.

Cultural - Operators will be required to include review of Northern Cheyenne homestead records and evaluation for homesteads in the cultural resource surveys where land records indicate Northern Cheyenne homesteading activity. Specific measures to mitigate impacts to these homesteads will be developed at the APD approval phase.

A review of land and mineral ownership maps indicate that one homestead location listed in Appendix C of BLM's 2002 Ethnographic Report may be located on an area open to fluid mineral leasing. The location is on private surface and federal minerals. Prior to any land disturbing activity permitted by the BLM in this location, and with landowner permission, BLM will

work with the Northern Cheyenne Tribe and the operator to develop the requirements for inventorying, recording, and evaluating the homestead site.

Operators will be required to consult with the Northern Cheyenne Cultural Commission to determine the location of any important hunting, fishing, and plant gathering sites. APD approvals would include measures to avoid impacts to these resources using standard terms and conditions.

Operators will be required to inventory BLM-administered lands for traditional plant gathering sites around the proposed drilling locations. APD approvals may include avoidance or timing restrictions to prevent impacts to identified important hunting, fishing and plant gathering sites.

Operators will be required to conduct a plant inventory on BLM-administered lands proposed for disturbance near Poker Jim Butte. Impacts on medicinal and ceremonial plant gathering areas could then be mitigated using standard terms and conditions.

Operators will be required to inventory all springs supplied by the coal seam producing CBM within the anticipated drawdown radius of their proposed operation.

The Northern Cheyenne Cultural Commission will be consulted about the appropriate mitigation if culturally significant springs were located within the anticipated drawdown radius of the operator's proposed development.

Operators may be required to avoid impacting culturally significant springs as part of the mitigation plan developed under Section 106 of the National Historic Preservation Act.

Operators could be required to monitor the condition of culturally significant springs where there is the potential for production activities to impact the springs. This requirement will be triggered by the results of the site specific hydrologic evaluation associated with the APD approval.

Operators must modify federal CBM production if monitoring data shows production is affecting culturally important springs. Operators must implement mitigating measures that will maintain the spring flow prior to resuming full production.

Operators will be required to have a discovery plan as part of their POD. The discovery plan would include suspension of operations and notification requirements for state, private, and federal lands in the event human remains are discovered during project construction.

Should human remains be discovered during construction, BLM will consult with the Northern Cheyenne on the appropriate distance between the project and gravesite.

BLM will share data with the Northern Cheyenne's THPO from cultural resource investigations associated with CBM development. This information could then be used for tribal educational and outreach efforts.

When tribally affiliated properties would be affected by CBM developments, BLM may require monitoring to be conducted by a tribal monitor. Under most normal circumstances, cultural resource work does not require a monitor.

Avoidance is BLM's standard policy for not adversely affecting historic properties. All cultural properties recorded as a result of CBM or conventional oil and gas related activities will be evaluated for listing on the National Register of Historic Places. BLM will consult with the Northern Cheyenne Tribe when properties are evaluated as Traditional Cultural Properties.

BLM's report standards are found in the BLM's 8100 Manual and Handbooks and are augmented by current professional standards. When reports contain data that would be of interest to the Tribe or the public, BLM may require the operator's consulting archaeologist to prepare a public narrative of their work.

BLM will provide the Tribe a copy of BLM's annual cultural resources report, which will summarize CBM related cultural resource activities.

BLM will participate in the Cultural Resources Work group(s).

Additional Operator Requirements - Site-specific analysis of proposals will determine the timing of CBM production adjacent to the Reservation.

BLM will require operators to modify federal CBM production if monitoring shows production is resulting in an effect on groundwater on the Reservation. BLM requirements could include reducing production rates, shutting in the well, or requiring the operator to provide compensation to the Tribe. The operator must mitigate the impact of groundwater withdrawal prior to resuming full production.

The interests of the Tribe will be considered prior to authorization of federal production that may potentially drain Reservation CBM resources. In establishing well spacing on federal lands, protection against drainage of Reservation CBM resources will be a priority. If monitoring or reservoir modeling indicates drainage of CBM resources is occurring, the BLM will enter negotiations with the operator and the Tribe to protect the rights of the Tribe. BLM requirements could include reducing production rates, shutting in the well,

establishment of communitization agreements, or requiring the operator to pay compensatory royalty.

BLM will use its existing regulations (43 CFR 3160) to require operators to provide the production data and analysis needed for BLM to determine if drainage of Reservation CBM is occurring.

Operators will be required to provide an analysis prior to field development in areas of potential drainage of Reservation CBM resources. In this analysis, operators must demonstrate that CBM production is not likely to drain Reservation CBM resources.

Specific evaluations will be required for CBM wells drilled in areas that could potentially drain Reservation CBM. Such evaluations would include modeling of CBM reservoirs to calculate the potential for drainage of Reservation CBM. All evaluations would be made available to the Tribe.

Operators may be required to provide updated information for reservoir modeling during production in order to monitor the potential for drainage of CBM resources from the Reservation.

The BLM will work with the MBOGC under its existing Memorandum of Understanding to protect Tribal resources that may be affected by state or private permits or establishment of CBM spacing units adjacent to Tribal resources. In order to protect the rights of the Tribe, the BLM will represent the Tribe at MBOGC hearings that set spacing units for the production of CBM resources, including state and private lands. In addition, the BLM, as a member of the technical advisory committee administered by the DNRC Water Management Division, would make recommendations to the MBOGC on the Tribe's behalf regarding monitoring requirements and mitigation of impacts.

BLM will not approve produced water management applications until any necessary State, EPA, or Tribal permits required for water management actions are obtained.

Vegetation - The Operator will be responsible for the training of employees in noxious weed awareness and prevention. Training would be one required component of the operator's noxious weed prevention plans.

Water - The 14-mile buffer zone proposed by the Northern Cheyenne Tribe would not be applied. This buffer zone is based on a theoretical maximum drawdown radius assuming uniform geologic and hydrologic conditions in a 2D model. Groundwater modeling that accounts for geologic faults, irregularities, and vertical leakage was prepared for the Final EIS. The modeling predicts a drawdown radius of 4 to 5 miles (in the Hanging Woman Creek drainage). These results more accurately represent anticipated site conditions and are consistent with the DNRC, Water

Resources Division, Technical Advisory Committee (TAC) recommended minimum of 3-miles.

To protect Reservation groundwater the operator will be required to conduct geologic and hydrologic evaluations for CBM production wells to be located in areas that may have hydrologic connectivity with Reservation groundwater. Groundwater modeling that accounts for geologic faults, irregularities, and vertical leakage was prepared for the Final EIS. The modeling predicts a drawdown radius of 4 to 5 miles. When the site-specific studies determine there will be an effect to Reservation groundwater, the operator must develop and apply measures to prevent the impact of groundwater withdrawal and monitor the effectiveness of such measures.

For CBM wells located in aquifers with hydrologic connectivity to Reservation groundwater, the operator will be required to conduct a geologic and hydrologic evaluation prior to field development that identifies the potential for CBM production to affect Reservation groundwater resources.

CBM PODs must include measures to prevent the impact of CBM production on Reservation groundwater. Where there is a potential for affecting Reservation groundwater, monitoring plans would be developed by the operator and approved by BLM in consultation with the Tribe. When determined necessary by BLM, operators will be required to install monitoring wells to verify the effect of CBM

production on Reservation groundwater resources. Monitoring wells placed on the Reservation would be subject to approval by the Tribal government. All results of groundwater monitoring would become public information.

Specific operator monitoring plans must include a hydrologic evaluation; describe the well location(s), aquifer(s) monitored, parameters monitored, baseline data acquisition, and response actions to adverse monitoring results.

Operators will be required to monitor the impact of CBM production on groundwater throughout the well life and after closure, if necessary.

BLM may approve CBM production upon completion of the geologic and hydrologic evaluation, and installation and equipping of any required monitoring wells.

Operators may be required to expand their monitoring plans as production continues if a decline in Reservation groundwater levels occurs that is attributable to their operations.

The Powder River Basin Controlled Groundwater Area standards will be enforced by BLM on federal leases.

Wildlife - The results of the WMPP will be used to adjust conditions of approval at the APD stage. This includes measures needed to protect Reservation wildlife from the impacts of CBM development.